NEWS REPORT

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Foreign Research Scientists Program

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UNDER a contract with the Foreign Operations Administration, the National Academy of Sciences–National Research Council is now administering a program under which 150 young foreign scientists at the immediate postdoctoral level are being brought to the United States to pursue basic research in American universities. This program originated in the spring of 1953 when the Academy–Research Council was requested by the Foreign Operations Administration (FOA) to undertake the administration of such a program. The countries involved are those participating in the Organization for European Economic Cooperation (OEEC), and in which counterpart funds are available. These include Austria, Belgium, Denmark, Greece, Iceland, Italy, Luxemburg, The Netherlands, Norway, Portugal, Turkey, The United Kingdom, and Western Germany.

In administering the program, the Academy–Research Council has sought the cooperation of sister academies of science and research councils abroad and has invited the leading scientists in each country to participate in the selection process. To explain the program and to expedite the formation of selection committees, representatives of the Academy–Research Council were in Europe during the summer for consultation with representatives of the appropriate organizations in each country.

The reception of the program and the cooperation of sister organizations abroad have been gratifying. In the United Kingdom the Royal Society has undertaken the sponsorship of the program. The Society has set up a selection committee and publicized the program, received applications, and made some of its nominations with others to follow. Similarly, the Koninklijke Nederlandse Akademie van Wetenschappen is cooperating in The Netherlands, the Norske Videnskaps Akademi i Oslo in Norway, the Deutsche Forschungsgemeinschaft in Germany, the Österreichische Akademie der Wissenschaften in Austria, the Kongelige Danske Videnskabernes Selskab and the Akademiet For de Tekniske Videnskaber are cooperating to serve the purposes of the program in Denmark, and similar arrangements are being completed in other countries. In France, while the chairman of the committee represents the Académie des Sciences, the Centre National de Recherches Scientifique and the Ministère de l'Education Nationale are cooperating. In Italy the Accademia Nationale dei Lincei is furnishing the chairman of the selection committee but is cooperating with the Consiglio Nazionale delle Ricerche. In Belgium the Belgian-American Educational Foundation is cooperating with the Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique and the Konin-

klijke Vlaamse Academie voor Wetenshappen, Letteren en Schone Kunsten van België in the selection process. Arrangements in Greece, Turkey, and Portugal are not complete but will probably involve direct participation by leading scientists in the national universities. In Iceland the Rector of the Háskoli Íslands has agreed to guide his country's participation.

In each country the selection committees have been given full responsibility to select the most promising young men for this rich experience, and there is every indication that those selected will be the ablest and most promising young men at the level indicated. By placing full responsibility in these national selection committees, the leading scientists of each nation are in a position to select the young men who will be most significant in the future development of science in their countries and will be in a position to provide a degree of assurance that upon their return they will find opportunities for moving into positions of significance and leadership.

While no hard and fast quotas have been established for each country, it seems probable that the larger countries, such as England, France, Italy, and Germany, will send 20 to 25 candidates. Other countries will send from 5 to 10 candidates each. The selection committees abroad are, however, nominating more candidates than are likely to be placed in American universities so that the Academy–Research Council in its assignment of these individuals can, to the greatest possible degree, assure the most fruitful opportunity for each visiting scientist in a university where fundamental research is being carried on in the specialty in which he himself is interested. Individual scientists from abroad cannot, in all cases, be placed in the institutions of their choice. However, each candidate has been asked to indicate the institutions he would prefer and his reasons for such preference. This information will serve as a guide in making assignments.

American universities were notified of the program during the summer and were requested to send in invitations for the number of these young scientists they would desire to have associated with them in their research activities. Up to the present time several hundred invitations have been received, a number far beyond what the program is likely to require. Consequently, it seems reasonable that excellent research opportunities can be made available to all of the candidates.

Transportation for the young scientists and their dependents is being provided by counterpart funds at the disposal of the Foreign Operations Administration and will cover travel to and from the place of their assignment. While in the United States they will be supported by a maintenance allowance provided by FOA and paid directly to the scientist. Provision has also been made for their attendance at scientific meetings in the United States upon request and with the approval of the Academy–Research Council. Expenses for such travel will be paid from funds provided specifically for this purpose.

The Foreign Operations Administration is deeply interested in this program and believes that it will furnish an important element in the program for the improvement of productivity in the OEEC countries. It departs from previous FOA policy in being distinctly longer range in its implications than have most of its programs in the past. To that extent it is consistent with recent changes in United States Government administration and policy which support the long range point of view in building international solidarity among the western European countries.

The present program aims to provide a sojourn in the United States of up to two years for each candidate. As conceived at present, the program covers only the single group of 150 young scientists who are being brought over in the next few months. However, considerable interest has been developed in the program and there seems at least a possibility at the present time that it may go into another phase if reactions to it continue to be as favorable as they are at present and if experiences with the program at home and abroad seem to indicate that it is a sound and useful element in the program of international cooperation.

One of the interests of the FOA in the program is to provide an opportunity for the visiting scientists to gain a thorough understanding of the role of research in

industry as conceived in the United States. It appears generally agreed that American industry has come to depend very directly on research as a foundation to industrial development and has established not only great research activities as a part of industrial operations but has also developed close relationships with fundamental research in the universities. During the course of this program efforts will be made to provide experiences for the visiting scientists under this program so as to acquaint them with the attitude of American industry toward research and the practices in American industry in channeling results of fundamental research into practical use. It is hoped in this way to give them an understanding of the American scientific community, both in the academic institutions and in industry, and of the relationships between academic and industrial scientists.

Perhaps one of the most valuable features of the visiting scientists program is the opportunity which it provides for development of close working relationships between foreign academies and research councils and the National Academy of Sciences–National Research Council in the United States. These relationships have been warmly welcomed at home and abroad and seem likely to be significant as a means of strengthening the bonds of friendship and cooperation between scientists in the United States and those countries in which this program operates.

Interrelationship of the Earth Sciences

FRANCIS BIRCH

Chairman, Division of Earth Sciences

AT the meeting of the Governing Board of the National Academy of Sciences–National Research Council on June 21, 1953, it was voted to change the name of the Division of Geology and Geography of the National Research Council to Division of Earth Sciences. There are a number of reasons for this change. Primarily, perhaps, it was intended to give recognition to the increasing importance of a number of fields of study, devoted to various aspects of the earth, which have developed techniques and professional allegiances distinct from those traditionally associated with geology or geography. It was also meant to assert the interrelationship of these sciences, regardless of the varieties of method or of subdivision, and the desirability of maintaining them in close association in pursuing the aims of the Academy–Research Council. The change took notice of a significant modern trend, and implied a program of encouragement of this trend.

It may puzzle some that the term "earth sciences" should be considered useful for this purpose, since its meaning hardly differs, strictly speaking, from that of the word "geology." But classical derivations do not control the development of sciences, and it is now a fact that geology has a rather definite restricted meaning which does not usually include geophysics or geochemistry, and often does not even include mineralogy or petrology. In order to insure administrative and professional cooperation, many educational institutions have already found it desirable to group departments of geology, mineralogy, geophysics, and so on, into divisions of "earth sciences," or "geological sciences," or "geosciences." Consequently, in its new title, the Division of Earth Sciences of the National Research Council is following a well-established trend; one can only regret the somewhat more satisfying term, geological sciences, was not earlier firmly identified

with the whole group of sciences concerned with the earth.

It is a matter of history, however, that many of these sciences have developed largely independently of one another. Some of them, such as geodesy, mineralogy, and terrestrial magnetism, are older than geology in its modern sense, and in many respects more mature, more highly developed along theoretical and mathematical lines. Many of them, furthermore, must always retain strong connections with the parent sciences, such as astronomy, physics, biology, and chemistry. These connections should be maintained through representation in the corresponding Divisions of the Research Council. The grouping in the Division of Earth Sciences is not intended to loosen such connections, but rather to provide for increasingly active exploration of the many areas of joint interest.

Evidently the degree of independence varies greatly from one specialty to another; certain subdivisions may have only remote connections with the other earth sciences. For example, that part of meteorology concerned with short-range forecasting can be developed with little reference to the distant past; on the other hand, climatology finds its perspective in relation to paleogeography, glaciology, geomorphology, and tectonic history. Again, an important part of the effort in terrestrial magnetism is devoted to the large-scale magnetic geography of the globe, its variations with time, and the many relations to astronomy, radio communication, and the physics of the upper atmosphere. But the small-scale spatial variations, related to geologic structure and the magnetic properties of rocks, have given rise to a large segment of the industry of geophysical exploration, and lead to their interpretation into mineralogy, petrology, sedimentology, and solid-state physics. With respect to the major problems of terrestrial structure and dynamics, many subdivisions of geology, geochemistry, and geophysics may be regarded as treating different manifestations of essentially the same underlying reality. The development of the contacts among such specialties as structural geology, stratigraphy, petrology, volcanology, gravimetry, seismology, and tectonophysics is one of the most promising modern trends. Though some of these sciences contain a large element of natural history and others have become highly mathematical, their common concern with the unique history and structure of the earth is a unifying factor of decisive weight.

The divisional organization of the National Research Council ought, of course, to be determined with reference to the functions which the Council intends to perform. Where there are already numerous strong scientific organizations in the field, one of the most useful functions can be to provide a regular forum where representatives of these organizations may discuss matters of common interest, with the hope of achieving concerted policies and action. Such matters naturally include general topics like the support of research and of publications, fellowships, international cooperation, contracts with governmental agencies. In addition, there are special projects involving several societies, Federal bureaus, private institutions and industries, universities, in which the initiative may be taken most appropriately by the Divisions of the Research Council. In an era of growing specialization, continual efforts at integration are required, with particular attention to neglected borderline fields. For all of these reasons, the Divisions of the National Research Council are typically inclusive rather than restricted; we have only to cite such titles as Physical Sciences, Biology and Agriculture, Engineering and Industrial Research. The Division of Earth Sciences fits this pattern of inclusiveness and should serve as a focal point for encouraging cooperation and research in this broad and rapidly developing group of sciences.

The International Geophysical Year, 1957–58

JOSEPH KAPLAN

Chairman, United States National Committee, International Geophysical Year

IN response to a request from the International Council of Scientific Unions, the National Academy of Sciences–National Research Council formed, in February of this year, a United States National Committee to develop a program of geophysical observations to be carried out by the United States during the International Geophysical Year in 1957–58. The appointment of this Committee is recorded in Volume III, No. 2, of NEWS REPORT.

As its first assignment, this United States National Committee, with the assistance of various working groups prepared tentative proposals for submission to the Special Committee for the International Geophysical Year which had been appointed by the International Council of Scientific Unions. These United States proposals together with those prepared by national committees of other countries were carefully studied at the first meeting of the Special Committee held at Brussels, June 30–July 3. At this first meeting Sydney Chapman was elected *President*, Lloyd V. Berkner, *Vice President*, and Marcel Nicolet, *General Secretary*. Dr. Chapman has written an excellent account of the history of this program and of the activities of the Special Committee at the Brussels meeting. This report has been published in the English journal, *Nature*, Volume 172, No. 4373, August 22, 1953.

It is the writer's purpose here to describe briefly a few of the proposed activities for the International Geophysical Year (IGY) in order to give the reader some feeling for the extensive planning and coordination that will be required if the program is to succeed. By its very nature a geophysical program will not be fully successful unless all the major nations which are seriously interested in science participate. For this reason, at the request of the Special Committee for the IGY, the International Council of Scientific Unions has formally invited the renewal of the valuable and effective cooperation given by Russia to the First and Second International Polar Years, forerunners of the International Geophysical Year. It is hoped that the USSR not only will accept this invitation but also will cooperate in encouraging other nations to take part that have not yet agreed to do so.

Man's ingenuity in studying the solid earth, the oceans, and the atmosphere, as well as their complex relationships with the sun and other external objects, has developed to a remarkable degree during the years since the Second Polar Year which was held in 1932–33, fifty years after the First Polar Year of 1882–83. One has only to mention the use of rockets as upper atmospheric probes, the studies of meteors and aurorae by means of radar, as well as many equally important examples from other areas of geophysics, to illustrate this point. These developments add both to the complexity and to the excitement of the program which will follow these two great pioneering efforts.

Perhaps as important as the actual scientific developments themselves is the increasing awareness of the public of the significance of science and the rapidly expanding and improving efforts to bring science to the attention of the public. Since the IGY program will carry out an extensive coordinated study of the planet on which man lives, one of the tasks of the United States National Committee will be to inform the scientific and general public of its purposes and plans. It is hoped that during a long period of preparation and

during the actual one and a half years of the program, the public will be given clear and interesting accounts of the background and progress of the undertaking.

It is clear that not all aspects of the vast domain of geophysical studies could or should be included in the IGY. The dates were selected to coincide with the expected period of maximum solar activity, and this immediately focuses attention on those branches of geophysics most closely related to solar activity. Eleven working groups at the Brussels meeting dealt with the following subjects: *i*) meteorology, *ii*) latitude and longitude determinations, *iii*) geomagnetism, *iv*) the ionosphere, *v*) aurorae and airglow, *vi*) solar activity, *vii*) cosmic rays, *viii*) glaciology, *ix*) oceanography, *x*) the selection and announcement of world days for specially intensive observations during the IGY, and *xi*) publication. Only a few of the major items set forth in the final report of the Special Committee of the IGY will be mentioned here.

Of considerable interest is the plan to have special World Days, occurring about twice a month, on the following occasions: *1*) expected intervals of unusual magnetic, ionospheric, or auroral activity; *2*) expected intervals of extreme magnetic quiet; *3*) launching of rockets; *4*) days of solar eclipses; and *5*) unusual meteor showers. Special cooperative efforts on a worldwide scale will be made on these days, and in some cases on succeeding days as well, to record such phenomena as solar noise, ionospheric fadeouts, cosmic rays, and aurorae.

Among the proposed auroral studies will be the synoptic studies of great worldwide displays. Its purpose will be to improve our knowledge of the connection between geomagnetic storms and typical features of the aurora. In particular, the time of appearance of the aurora will be related to the sudden commencement of the geomagnetic storm. It is known that when a solar flare is very intense and occurs within about 45° from the center of the sun's disk, it is often succeeded, after an interval of about a day, by a great magnetic storm, which commences suddenly and simultaneously over the whole earth within less than a minute. The corpuscular hypothesis is that particles from the sun, whose ejection accompanies the visible flare of light, produce both magnetic storms and aurorae and that the delay between the flare and the storm represents the time taken by the gas to travel the distance from the sun to the earth.

The meteorological working groups have called particular attention to the studies of the general circulation above the troposphere and have urged that special efforts be made to explore the atmosphere up to a height of 30 kilometers, especially along the meridians 10°E., 140°E., and 70°W. These meridians also were adopted for the special ionspheric and magnetic investigation.

Studies of atmospheric motions will not be restricted to heights of 30 kilometers, and many methods for carrying such studies to the outer limits of the atmosphere will be especially emphasized during the IGY. The great variety of such methods was brought out at the recent National Science Conference on Motions in the Upper Atmosphere held at the University of New Mexico. At this conference the OH radiations in the airglow were related to motions at about 80 kilometers, while it was noted that the twinkling of radio stars were related to motions near the very limits of the atmosphere. Turbulence and convection were inferred from the dissociation of molecular oxygen, while radio and photographic observations of meteor trains provided evidence regarding motions at other levels of the upper air.

It is not intended that the program for the IGY be narrowly limited. For example, time changes of cosmic rays have a number of geophysical aspects. Changes of cosmic ray intensity are associated with geomagnetic, and possibly heliomagnetic effects. More observations are needed to understand the storm time variation of cosmic ray intensity.

Changes in the structure of the atmosphere produce variations in cosmic ray intensity. Solar and lunar tides in the atmosphere affect the variations of meson intensity and require further study. Some of the various geophysical effects of cosmic rays require worldwide study, as for example the study of the relationship of

cosmic ray intensity to solar activity and to geomagnetism. This would also involve an examination of the correlation with associated phenomena such as ionospheric changes, solar radio noise, and others. The anisotropy of the primary cosmic radiation should be studied over a wide range of latitudes covering both the Northern and Southern Hemispheres.

Just as the report of the working group on cosmic rays has opened the way for fruitful cooperation between physicists and geophysicists, so the excellent suggestions presented by the working group on solar activity provides an excellent cooperative program with the astronomers. This is also true of a very important and interesting set of proposals for the more precise determination of the astronomical coordinates of the participating observatories and for the study of the variations of these coordinates. The purpose of these studies is to obtain a more exact knowledge of the instantaneous coordinates of the observatories, from which will follow: *a*) an improvement in terrestrial time determination; *b*) a more precise determination of the irregularities in the rate of the earth's rotation; and *c*) an improvement of star catalogs.

Space limitations will not allow further description of the IGY proposals or mention of all of those who have contributed to the progress that has been made thus far. It is hoped to acquaint everyone with the program and progress of the IGY through recognized scientific channels. Needless to say, all proposals will be carefully considered and all help will be welcome.

SCIENCE NEWS

AUTUMN MEETING NATIONAL ACADEMY OF SCIENCES

More than one hundred members of the National Academy of Sciences attended the Autumn Meeting at the Massachusetts Institute of Technology in Cambridge, Mass., November 9–11. Attendance at the scientific sessions, which were open to the public, exceeded two hundred, making the 1953 Autumn Meeting one of the best attended in recent years.

The Council of the Academy met on Sunday afternoon, November 8, and the scientific sessions began the following morning and continued through Wednesday evening. The program included seven sessions for the presentation of scientific papers and two invited symposia—one on "The Muscle Machine and Its Function" with Francis O. Schmitt as moderator, and the other on "Molecular and Solid State Physics" with John C. Slater as moderator. Both symposia were well attended and prompted lively discussions, which continued in the corridors and over the luncheon tables. Abstracts of most of the papers presented during the three-day meeting may be found in the November 13 issue of *Science* (Vol. 118, No. 3072).

On Monday afternoon at the business meeting of the Academy, President Bronk reported on the activities of the Academy–Research Council since the annual meeting held at Washington last April. He reported on advisory services rendered by the Academy to the Departments of State, Commerce, and Defense and to the National Security Council. He also reviewed the work of Academy committees appointed to consider questions raised regarding the functions and performance of the Bureau of Standards. Several of the activities reported by President Bronk are described elsewhere in this issue of NEWS REPORT.

The Public Lecture, which has become a regular feature of Academy meetings, was delivered Monday evening by Harlow Shapley, Director of the Harvard Observatory, and George R. Harrison, Dean of the Massachusetts Institute of Technology School of Science. The joint lecture was

entitled "The Production and Use of Solar Energy." Dr. Shapley pointed out that modern astrophysical theory and observations indicate that the sun is more than 80 percent hydrogen and that most of the rest is helium. He made the hypothetical calculation that the sun's radiation can be maintained at its present level for 100 billion years before the hydrogen fuel is exhausted. Dr. Harrison described present and potential uses of solar energy. He emphasized that many more years of effective work by scientists and engineers are needed to solve the problems which stand in the way of utilization of solar energy. In his closing remarks, Dr. Harrison stated, "It may well be that the most direct attack is further fundamental research on the nature of matter and energy, with particular reference to the interaction of photons and atoms."

On Tuesday evening Academy members and their guests assembled for the Academy dinner at the Faculty Club in the Alfred P. Sloan Building on the campus. The dinner was preceded by a reception given by President and Mrs. Bronk. Following dinner, Willard F. Libby of the Institute for Nuclear Studies at the University of Chicago spoke on recent applications of the radioactive carbon dating technique. He told of its use in determining the age of artifacts and remains of plants and animals found by archeologists and geologists. He also described some potential uses of radioactive hydrogen, called tritium, to determine the source of water in a given rainstorm, or the age and origin of surface and underground waters.

The hospitality extended to Academy members and their guests during the three-day meeting has seldom been equaled in the history of Academy meetings. Visits to research laboratories were arranged for the members, and special tours to historical sites were planned for the ladies. On Monday evening Academy members were received at the home of President and Mrs. Killian. The final social event came on Wednesday evening when members of the Academy were guests at a buffet dinner given by the American Academy of Arts and Sciences at its house at 28 Newberry Street in Boston.

AWARD OF THE DANIEL GIRAUD ELLIOT MEDAL

The National Academy of Sciences at its Autumn Meeting, held at the Massachusetts Institute of Technology, November 9–11, voted to award the Daniel Giraud Elliot Medal for the year 1950 to Raymond Carroll Osburn of the Hancock Foundation of the University of Southern California. Presentation of the medal and accompanying honorarium will be made in Washington at the ninety-first annual meeting of the Academy, April 26–28, 1954.

The Daniel Giraud Elliot Medal is awarded annually in recognition of meritorious work in zoology or paleontology. The contribution which won the award for Dr. Osburn is entitled *Bryozoa of the Pacific Coast of America Part I, Cheilostomata-Anasca* published in June 1950. In recommending the award the committee on the Elliot Fund wrote in part as follows: "The work gives keys for identification, descriptive accounts, detailed illustrations, pertinent references to literature, and descriptions of numerous varieties and species new to science. It stands as a valuable treatise on a complicated group of organisms, interesting scientifically in their living individuals, and valuable in fossil form as aids for the determination of the geologic age of the deposits in which they occur. Professor Osburn has devoted a major part of his life to studies of American Bryozoa, both Atlantic and Pacific, and embodies in this major contribution his outstanding knowledge of the subject. His material as presented will be of major assistance to other workers in this field of science."

ACADEMY–RESEARCH COUNCIL LECTURE SERIES

The National Academy of Sciences–National Research Council opened this year's lecture series on November 4 with an address entitled "Aurora Polaris, Description and Theory" by Sydney Chapman, Professor of Geophysics in the Geophysical Institute of the University of Alaska and lately Sedleian Professor of Natural Philosophy at the University of Oxford, England. Following the lecture there was an informal reception at which tea was served.

REPORT OF COMMITTEE ON BATTERY ADDITIVES

The Committee on Battery Additives of the National Academy of Sciences completed its work on appraising the quality of the work of the National Bureau of Standards on AD-X2 and reported its findings to the President of the Academy on October 30, 1953. The Committee's conclusions were as follows:

1) From the study and investigations, the Committee concluded that the quality of the work of the National Bureau of Standards in the field of lead acid storage battery testing is excellent, and

2) that while Pioneers, Inc., claim that AD-X2 has substantial merit, the relevant data now available to the Committee on the effects of AD-X2 are adequate to support the position of the Bureau of Standards that the material is without merit.

In view of these conclusions the Committee recommended "that no additional tests on the merit of AD-X2 be undertaken by it or under its supervision."

The report was made available to the public by the Secretary of Commerce, the Honorable Sinclair Weeks, at whose request the study was undertaken. In commenting on the report Mr. Weeks stated that it "is an assurance to the public and a source of satisfaction to me and to the Bureau. I shall do all in my power to aid the Bureau in maintaining this high level of scientific service to the Nation."

Copies of the Committee's report may be obtained from the Office of Technical Services of the Department of Commerce.

ATOMIC BOMB CASUALTY COMMISSION

John Morton, professor of surgery at the University of Rochester, has been appointed Director of the Atomic Bomb Casualty Commission, which is conducting a long-term study of the effects of the bomb upon the populace in Hiroshima and Nagasaki. Dr. Morton succeeds Grant Taylor, who, during the past four years, has guided the Commission through the end of the period of military occupation and established it on a firm footing in newly independent Japan. Dr. Morton will serve on a temporary basis until a permanent director is appointed early in 1954.

ADVISORY COMMITTEE TO OFFICE OF ORDNANCE RESEARCH

An Office of Ordnance Research (OOR) was established by the Department of the Army early in 1951 to encourage and support basic research in the fields of chemistry, engineering, mathematics, and physics. Since July 1951 the Academy–Research Council has assisted OOR in evaluating the scientific merits of the research proposals submitted by scientists in colleges and universities. This assistance is rendered on an advisory basis, and the final decision on the award of a contract in support of a research proposal is made by OOR. Until recently this advisory assistance has been rendered by an Academy–Research Council Committee of eight members, two from each of the four fields of science mentioned above.

In order to provide on the part of the Committee a greater range of intimate acquaintance with the status of research in each of the four fields, the membership of the Committee has been enlarged and is now constituted as follows: *Chemistry*—P. M. Doty, Harvard University; J. F. Flagg, General Electric Company; W. S. Koski, Johns Hopkins University; C. T. Walling, Columbia University; and G. W. Watt, University of Texas; *Mathematics*—A. A. Albert, University of Chicago; Einar Hille, Yale University; Deane Montgomery, Institute for Advanced Study; and S. S. Wilks, Princeton University; *Engineering*—G. F. Carrier, Harvard University; D. H. Pletta, Virginia Polytechnic Institute; Hunter Rouse, State University of Iowa; E. A. Walker, Pennsylvania State College; and H. K. Work, New York University; *Physics*—R. C. Gibbs, Academy–Research Council; Walter Gordy, Duke University; R. S. Mulliken, University of Chicago; J. B. Platt, University of Rochester; Frederick Seitz, University of Illinois; and V. F. Weisskopf, Massachusetts Institute of Technology.

As heretofore, the Committee will be assisted in the case of each proposal by advice from three or more referees who are considered to have expert knowledge of the special field of that proposal. R. C. Gibbs will serve as Chairman of the Committee, and R. J. Killian, Chief Scientist for OOR, will serve as a liaison member.

CONFERENCE ON AFRICA

The Division of Anthropology and Psychology of the National Research Council joined with the Social Science Research Council in sponsoring a Conference on Problems of Area Research in Contemporary Africa held at Princeton University, October 14, 15, and 16. The Conference, which brought together some 60 members of the American and European academic communities, was supported by a grant from the Carnegie Corporation of New York. The theme of the conference was "Stability and Change in African Societies."

C. W. de Kiewiet, President of the University of Rochester, gave the keynote address. He pointed out that the American Revolution has been misinterpreted to mean the rejection of Europe and the colonial powers and that Americans today are ill-prepared to estimate the situation in Africa because they are caught in a series of contradictions.

American scholars present exchanged views with five European Africanists: Peter Ady, economist, and Kenneth Robinson, historian, from the University of Oxford; Jacques Maquet, anthropologist, with the Institute for Scientific Research in the African Congo; Paul Marc Henry, Commission for Technical Cooperation in Africa South of the Sahara; and Audrey Richards, anthropologist, of the East African Institute for Social and Economic Research at Kampala. Melville Herskovits of Northwestern University, Chairman of the National Research Council Committee on Africa, led a round table discussion among participants from abroad on current research and contrasting field methods. John A. Noon, anthropologist with the U. S. Information Service, brought back from Nairobi in Kenya a fresh estimate of the Mau Mau as a native movement.

It was to the junior American scientists, mainly anthropologists, recently returned from the field, that the planning committee for the Conference entrusted responsibility for preparing the working papers for the conference (see NEWS REPORT Vol. III, No. 3). Inventory papers were grouped under three topics—political institutions, economic and social institutions, and religious institutions.

Each conference session had a chairman and a discussion leader. Harry R. Rudin, Professor of History at Yale University, shared the session on political institutions with Vernon McKay of the U. S. Department of State. Derwent Whittlesey of Harvard University served as Chairman of the session on economic institutions in which Lloyd Reynolds of Yale University presented possibilities for new economic research. William Bascom of Northwestern University occupied the chair for the session at which William O. Brown of Boston University led a discussion on new approaches to African research. Roland Young of Northwestern University and Liston Pope of Yale University brought humanistic approaches to the analysis of papers on religious institutions. William Fenton, Executive Secretary of the Division of Anthropology and Psychology of the National Research Council served as Chairman of the Planning Committee for the Conference.

At the closing session of the conference a general statement was adopted asking the research councils and foundations to aid in the establishment of an appropriate body to facilitate African studies and to further international cooperation in African research.

TRAINING IN APPLIED MATHEMATICS

A conference on training in applied mathematics was held on October 22 and 23 at Columbia University in conjunction with the meeting of the American Mathematical Society. The conference was planned as a part of the survey on training and research in applied mathematics currently being conducted by the Division of Mathematics under provisions made by the National Science Foundation.

Training programs were reviewed in sessions on *1*) applied mathematics in the traditional departmental structure, 2) the graduate institute of applied mathematics, and 3) the role of mathematics in the integrated school of applied science. In two further sessions the need for and the role played by applied mathematicians in Government establishments and in industrial organizations were discussed in an effort to gauge current demands.

NUCLEAR PROCESSES IN GEOLOGIC SETTINGS

An informal conference on Nuclear Processes in Geologic Settings was held at the George Williams College Camp on Lake Geneva, Wisc., September 21–23. The conference was planned and arranged by the Subcommittee on Nuclear Geophysics of the Committee on Nuclear Science, consisting of L. T. Aldrich, Carnegie Institution of Washington, *Chairman;* P. M. Hurley, Massachusetts Institute of Technology; M. G. Inghram, University of Chicago; and A. O. C. Nier, University of Minnesota.

The leaders of the discussion and their topics were as follows: A. O. C. Nier, decay constants, branching ratios, etc., of importance in geologic materials and studies; M. G. Inghram, spontaneous and neutron fission in geologic materials, neutron flux and nuclear reactions in rocks; John Hipple, Pennsylvania State College, earth heat, trace elements in the atmosphere, primeval isotopic and elemental abundances; H. C. Urey, University of Chicago, and H. G. Thode, McMaster University, variations in natural isotopic abundances correlated with geologic causes. Other active participants in the discussion numbered about twenty.

The preparatory work of the Subcommittee was assisted by the joint program of the Office of Naval Research and the Atomic Energy Commission through a contract with the National Academy of Sciences. The conference itself was sponsored jointly by the National Science Foundation, the University of Chicago, and the National Research Council. The proceedings of the conference will be published.

CZECHOSLOVAK ACADEMY OF SCIENCES

The National Academy of Sciences recently received word that the Royal Czech Society of Sciences, founded in 1784, the Czech Academy of Sciences and Arts, and the Masaryk Academy of Labour were merged about a year ago to form the Czechoslovak Academy of Sciences. Serial publications previously issued by the three organizations are being continued by the new academy. Information or correspondence about any of these publications should be sent to the new address: Narodni tř. 5, Prague 1, Czechoslovakia.

BIO SCIENCES INFORMATION EXCHANGE

During the past three years the Bio Sciences Information Exchange, operating under the auspices of the Division of Medical Sciences, has become firmly established as the most comprehensive source of data on research supported by both governmental and private grants in the bio sciences. Although limited at first to the medical sciences, its service recently was extended to include the behavioral sciences as well. Since the Division does not wish to assume permanent responsibility for operational activities, an agreement was reached whereby on November 1 of this year the Exchange became a part of the Smithsonian Institution. This change does not affect the services rendered the Research Council and other participating organizations.

COMMITTEE ON INTERNATIONAL EXCHANGE OF PERSONS

Gordon Macgregor has been appointed Research Associate of the Committee on International Exchange of Persons to work with two advisory committees on the Near East and South Asia in making a study of current exchange of persons activities in underdeveloped countries. The study, which is designed to increase the effectiveness of the Fulbright fellowship program and the selection of grantees in the university lecturing and advanced research categories, is supported by a grant from the Ford Foundation.

Dr. Macgregor received his Ph.D. degree in anthropology from Harvard University in 1935. Prior to his appointment by the Committee on International Exchange of Persons, he served as social science advisor in the Near East and African Development Service of the Foreign Operations Administration.

DIVISION OF MATHEMATICS

Walter Leighton, Air Research and Development Command, F. J. Weyl, Office of Naval Research, and Leon W. Cohan, National Science Foundation, have been appointed liaison representatives of the Division. Mina S. Rees, Hunter College, has been appointed a member-at-large.

CONFERENCE ON CLAYS AND CLAY MINERALS

The Second National Conference on Clays and Clay Minerals was held at Columbia, Mo., October 15–17. It brought together specialists from a large number of fields and provided a forum in which many common problems were analyzed and discussed. The Conference was sponsored by the University of Missouri, the Kansas Geological Survey, and the Committee on Clay Minerals of the National Research Council. The Committee is administered by the Division of Earth Sciences, but is interdivisional with the Divisions of Chemistry and Chemical Technology and Biology and Agriculture.

The pre-Conference field trip included examinations of a Putnam soil profile as well as visits to several clay and diaspore pits, where the field evidence used to support the conclusions presented in some of the papers was seen. The application of physical chemical work to geological problems was discussed at length as were the conflicts between work of this kind and interpretations of field data.

The vexing problem of identification of mixed-layer silicates was presented from several points of view. It was concluded that intimate layer-by-layer mixing is much more common than previously believed. Packet layering of different minerals is also common. When layer for layer substitution or mixing occurs, X-ray diffraction patterns may indicate the presence of very little crystalline matter. In these situations, other identification techniques must also be employed.

X-ray procedures from distinguishing between minerals possessing 7, 10, and 14 angstrom basal spacings were discussed in detail. Some of the magnesian chlorites were shown to have a 7 angstrom basal spacing which, by suitable treatment, inverted to 14 angstroms. This important discovery may help resolve several difficult mineral identification and genesis problems.

Weathering and diagenesis problems were presented from both field and laboratory approaches. Attention was called to some energy changes involved during weathering and the appreciable solubility of quartz and other silicates in natural solutions.

Perhaps the most important and certainly the most invigorating results of the conference stemmed from the individual conversations and comments on many papers by workers in a wide number of disciplines. Team attacks of this kind on problems involving clays promises to help clarify many basic problems common to the various divisions of chemistry, physics, agronomy, and geology.

CONFERENCE ON ELECTRICAL INSULATION

The Conference on Electrical Insulation is a unit of the Division of Engineering and Industrial Research that meets annually for the presentation of papers and exchange of information on research activities in the several scientific and technical fields of dielectrics and electrical insulation.

The twenty-second annual conference was held at Pocono Manor Inn, Pocono Manor, Pa., October 19–21. Approximately 250 persons registered. D. W. Kitchin of the Simplex Wire and Cable Company was chairman of the conference.

At the business meeting of the conference, held October 19, the following officers were nominated to serve for 1953–54: D. A. McLean, Bell Telephone Laboratories, *Chairman;* R. G. Breckenridge, National Bureau of Standards, *Vice Chairman;* and A. H. Sharbaugh, General Electric Research Laboratories, *Secretary.* The next annual conference will be held at Pocono Manor Inn, October 18–20, 1954.

Abstracts of the papers presented at the 1953 conference will be published in the Annual Report of the Conference.

CONFERENCE ON OPERATOR THEORY

A conference on Group Representations and Operator Theory was held at Arden House, Harriman, N. Y., October 20–23. The conference was arranged by the Committee on Scientific Conferences of the Division of Mathematics and sponsored jointly by the Academy–Research Council and the International Mathematical Union. Erhard Heinz of Gottingen, Germany, and nineteen American mathematicians participated in the conference.

DIVISION OF PHYSICAL SCIENCES

John S. Coleman has been appointed Executive Secretary of the Division of Physical Sciences, taking over many of the administrative responsibilities previously performed by R. C. Gibbs, until recently Chairman of the Division.

Mr. Coleman received his S.M. degree from the Massachusetts Institute of Technology in 1940. During the following years he held various wartime posts with the National Defense Research Committee, Office of Scientific Research and Development, and Harvard and Columbia Universities. He left the latter institution in 1946 to join the staff of the Academy–Research Council as executive secretary of the Committee on Undersea Warfare. Mr. Coleman's principal interests have been in acoustics, underwater sound, and instrumentation.

Walter Hahn, Jr., who has been serving for the last four years as technical aid to the Committee on Undersea Warfare, has been appointed executive secretary of the Committee to succeed Mr. Coleman. The Committee has been assigned for administrative purposes to the Division of Physical Sciences. It will continue, as in the past, to cover a wide range of interests, including investigations crossing many Division boundaries. By its direct association with the Division of Physical Sciences, however, it is believed that work of the Committee can be more effectively integrated with the programs of the several Divisions of the Council.

CONFERENCE ON BUILDING DOCUMENTATION

The problem of building documentation will be discussed at a 2-day working conference to be held at the Academy–Research Council on December 16 and 17 under the joint sponsorship of the Building Research Advisory Board (BRAB) and the American Institute of Architects. Members of the Conference will form special groups to discuss the following subjects: *a*) Definition and scope of building documentation; *b*) building documentation activities in Europe and the United States; *c*) technical information needs of the social science researcher; *d*) technical information needs of the building researcher; *e*) technical information needs of the building industry; *f*) technical information needs of the building design professions; *g*) classification systems and subject headings for building documentation abstracting; *h*) various new devices and techniques for recording and documenting; *i*) some questions of format; and *j*) costs and how to meet them.

The Conference Program Committee is composed of Walter A. Taylor, American Institute of Architects, *Chairman,* Verner W. Clapp, Library of Congress, Douglas E. Parsons, National Bureau of Standards, and George E. Pettengill, American Institute of Architects.

PARTICIPATION IN CANCER HEARINGS

By invitation of Representative Charles A. Wolverton, Chairman of the House Committee on Interstate and Foreign Commerce, the Division of Medical Sciences was represented at a series of hearings held to survey the progress made in the understanding and control of certain important diseases in order to determine whether additional legislation or appropriations would be of benefit. At a hearing on cancer held on October 2, R. Keith Cannan, Chairman of the Division, and Ira T. Nathanson, Chairman of the Committee on Cancer Diagnosis and Therapy, presented testimony concerning the Division's activities in this field.

PORCELAIN ENAMEL CONFERENCE

The Building Research Advisory Board (BRAB) and the Porcelain Enamel Institute sponsored a conference on Porcelain Enamel in the Building Industry at the Academy–Research Council on November 12 and 13. This conference differed from previous ones conducted by BRAB in that a specific material was considered. A. G. Hutt, Vice President of Ferro Corporation, served as conference chairman.

A half-day session was devoted to each of the following general topics: *1*) Fundamental properties of porcelain enamel, 2) uses of porcelain enamel in building design, 3) porcelain enamel as an engineering material, and *4*) building experience with porcelain enamel.

SUBCOMMITTEE ON RADIOBIOLOGY

R. E. Zirkle of the University of Chicago Institute of Radiobiology and Biophysics has been appointed chairman of the Subcommittee on Radiobiology of the Committee on Nuclear Science to succeed H. L. Friedell. H. J. Curtis of the Biology Division of Brookhaven National Laboratory has been appointed vice-chairman. Other members of the Subcommittee include: H. L. Friedell, University Hospitals of Cleveland; Alexander Hollaender, Oak Ridge National Laboratory; Martin D. Kamen, Washington University School of Medicine; John Magee, University of Notre Dame; J. J. Nickson, Memorial Hospital, New York; H. M. Pratt, Argonne National Laboratory; A. K. Solomon, Harvard Medical School; and C. Z. Tobias, University of California at Berkeley.

W. D. Claus, Atomic Energy Commission, Orr E. Reynolds, Office of Naval Research, and Wm. B. Looney, Bureau of Medicine and Surgery, Department of the Navy, will serve as liaison representatives and Philip S. Owen, Division of Medical Sciences, and Frank L. Campbell, Division of Biology and Agriculture, will serve as representatives from the National Research Council.

INTERNATIONAL RELATIONS

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES

The Eleventh General Assembly of the International Union of Biological Sciences (IUBS) was held at Nice, France, August 17–21. Fourteen of the twenty-six adhering nations were represented by official delegations. The United States delegation consisted of Paul Weiss, University of Chicago, *Chairman;* Ralph E. Cleland, Indiana University; and Bentley Glass, Johns Hopkins University. Other participants from the United States were Stuart Mudd, University of Pennsylvania, Secretary of IUBS; and R. E. Buchanan, Iowa State College of Agriculture and Mechanic Arts.

The Assembly proved to be one of considerable significance because it took essential steps toward the realization of an integrated and broadened program for IUBS. These steps had been urged in recent years in consideration of the rapid growth of the biological sciences and their increasing importance to human welfare. Practical actions inaugurated included arrangements for nine special symposia during the following triennium; coordination of research and information on the control of crop plant pests; international organization of the supply of biological materials and specimens for research, teaching, assaying, and documentation; and improved coordination in the abstracting of biological world literature.

Administrative actions taken included the first reading of the draft of new statutes for IUBS; discouragement of the secession of sections to form independent unions; encouragement of the Commission on Ecology to broaden its scope and establish itself as a section of IUBS; and an appeal to member nations to support the enlarged program of IUBS by increasing their annual contributions. Since the Assembly, Italy and Sweden have voted substantial increases in dues to the Union; other countries are considering similar actions.

A new Executive Bureau was elected as follows: Sven Hörstadius (Sweden), *President;* R. E. Cleland (U.S.A.), *Vice President;* G. Montalenti (Italy) *General Secretary;* R. Ulrich (France), *Secretary;* A. Linder (Switzerland), *Treasurer.* As a major innovation, the Assembly voted to set up a separate Policy Board to be composed of seven leading biologists, which is to serve as a scientific advisory council to the Bureau in matters of general policy and long-range planning. Membership on this body will be announced shortly.

INTERNATIONAL CONGRESS OF ZOOLOGY

The second postwar International Congress of Zoology was held at Copenhagen, Denmark, August 5–12. Forty-six countries were represented by a total of 562 delegates and members. Participants from the United States numbered fifty-nine, five of whom were official delegates appointed by the Secretary of State upon nomination by the Academy–Research Council. The Russian delegation of six members took an active part in the meetings and presented to the University of Copenhagen 150 bound volumes of recent Russian zoological publications.

Fifteen papers were presented at general sessions of the Congress and about 265 at the sixteen sectional meetings. In addition there were two major colloquia, one on deep sea bottom fauna and the other on problems of zoological nomenclature. Nearly fifty representatives of societies and institutions participated in the colloquium on nomenclature which met during the week preceeding the Congress.

One of the highlights of the Congress was the public lecture by Anton Fr. Bruun, leader of the Danish oceanographic expedition of the *Galathea*. The results of the investigations made on this expedition were discussed at the colloquium on deep sea bottom fauna.

The next International Congress of Zoology will be held at London, England, in 1958.

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

The Thirteenth International Congress of Pure and Applied Chemistry and the Seventeenth Conference of the International Union of Pure and Applied Chemistry (IUPAC) were held in Stockholm and Uppsala, Sweden, July 29–August 7. Twenty-six countries were represented at the Conference by official delegates or observers. The United States was represented by six delegates and two alternates appointed by the Secretary of State upon the nomination of the Academy–Research Council. The number of United States participants in the Congress totaled approximately 125.

One of the major items on the Conference agenda was the problem of securing adequate financial support for IUPAC. It was recommended that the annual dues of all countries adhering in Category A should be increased from $675 to $1,150. This recommendation was not brought to a Council vote, because it was not possible for a majority of the delegates to commit their governments to the increased payments. However, all countries were urged to increase their contributions as promptly as possible in accordance with the recommended category changes. Other methods of obtaining the financial assistance needed by the Union were discussed and will be explored by individuals in several member countries.

Because international congresses embracing all fields of chemistry have become too large for effective work, the Conference decided that the six technical sections of IUPAC should sponsor smaller meetings devoted to individual fields of chemistry. Accordingly, the next Congress and Conference to be held in Zurich, Switzerland, in 1955 will consist of meetings of the Bureau of IUPAC and of the Section on Organic Chemistry. Plans for other section meetings will be announced later.

The Section on Biological Chemistry went on record as being in favor of lending support to the International Union of Biochemistry for membership in the International Council of Scientific Unions. No official stand was taken by the Council on this issue pending further clarification of the activities of the new Union.

INTERNATIONAL UNION OF CRYSTALLOGRAPHY

The Third General Assembly and Congress of the International Union of Crystallography will be held in Paris, July 21–28, 1954. The first circular giving full details of the meeting is now available.

The program of scientific papers will cover the following subjects: *1*) Instruments and measurements; 2) new developments in structure determination; *3*) mineral structures, including synthetic minerals and ceramics; *4*) metal structures; *5*) inorganic structures; *6*) organic structures;

7) proteins and related structures; 8) random and deformed structures; 9) liquids and liquid crystals; 10) glasses; 11) thermal transformations; 12) diffuse scattering; 13) crystal growth; 14) neutron diffraction; and 15) miscellaneous. After the Congress two specialized symposia will be held on "The Location and Function of Hydrogen" and "The Mechanism of Phase Transitions in Crystals."

Additional information about the Congress and the symposia, as well as extra copies of the first circular, may be obtained from the Secretary of the Program Committee, A. J. Rose, Laboratoire de Minéralogie, 1 rue Victor Cousin, Paris 5, France. Copies of the first circular may also be obtained from the following regional representatives of the Program Committee: G. Menzer, Universitätsinstitut für Kristallographie und Mineralogie, Luisenstrasse 37/II, München 2, Germany; W. H. Taylor, Crystallographic Laboratory, Cavendish Laboratory, Cambridge, England; and J. D. H. Donnay, The Johns Hopkins University, Baltimore, Md.

FOREIGN RESEARCH SCIENTISTS PROGRAM

To guide the foreign research scientists program described in one of the feature articles in this issue of NEWS REPORT, the Academy–Research Council has formed an advisory committee under the chairmanship of Lloyd H. Reyerson, professor of chemistry at the University of Minnesota. Other members of the committee are Oliver E. Buckley, Bell Telephone Laboratories; Ralph E. Cleland, Indiana University; A. B. Hastings, Harvard University; H. F. Mark, Polytechnic Institute of Brooklyn; I. I. Rabi, Columbia University; C. G. Suits, General Electric Company; and E. C. Stakman, University of Minnesota.

The Committee has held two meetings and has made initial selections of young foreign scientists to participate in the program. Walter F. Colby, formerly professor of physics at the University of Michigan and recently on the staff of the Atomic Energy Commission, has been appointed Assistant to the Director of the Office of Scientific Personnel in charge of administration of the program.

INTERNATIONAL GEOPHYSICAL YEAR, 1957–58

The United States National Committee for the International Geophysical Year held its third meeting on November 5 and 6 in Washington, D. C., at the new headquarters of the National Science Foundation. Joseph Kaplan, professor of physics at the University of California and Chairman of the Committee, presided.

Among the invited guests attending the meeting were the following: Sydney Chapman and Marcel Nicolet, President and Secretary General respectively of the Special Committee for the International Geophysical Year (CSAGI), Frank T. Davies, Chairman of the Canadian National Committee and Hannes Alfvén, Chairman of the Swedish National Committee.

The first portion of the meeting was devoted to a discussion of the draft resolutions on the geophysical program for 1957–58, which was adopted by the CSAGI at its meeting in Brussels, June 30–July 3, 1953. This discussion was followed by reports from L. Washburn, Chairman of the Arctic Regional Committee, N. Gerson, Chairman of the Antarctic Regional Committee, and H. Riehl, Chairman of the Equatorial Regional Committee. The National Committee then proceeded to appoint a coordinating group to develop and draft the scientific program to be carried out by the United States. Members of this group were designated as reporters on specific portions of the program as follows: *World Days*, Alan Shapley, National Bureau of Standards; *Meteorology*, H. Wexler, U. S. Weather Bureau; *Magnetism*, E. B. Roberts, U. S. Coast and Geodetic Survey; *Aurora and Airglow*, C. T. Elvey, University of Alaska; *Cosmic Rays*, Serge A. Korff, New York University; *Solar Activity*, Sith B. Nicholson, Mt. Wilson Observatory; *Ionosphere*, H. G. Booker, Cornell University; *Longitude and Latitude*, G. M. Clemence, U. S. Naval Observatory; *Glaciology*, P. A. Siple, U. S. Department of the Army; *Oceanography*, E. H. Smith, Woods Hole Oceanographic Institution; *Rockets*, J. A. Van Allen, Princeton University; and *Publications*, Executive Secretary of the U. S. National Committee.

The second day of the meeting was devoted to consideration of financial problems, organization of a secretariat for the National Committee, and preparation of a time schedule of activities for 1954. The following schedule was adopted:

January 14 and 15
Meeting of Coordinating Group (reporters and chairmen of regional committees);

February 20
Report of Coordinating Group completed;

March 1
Report distributed to National Committee members and others for critical examination;

April 8 and 9
Fourth meeting, U. S. National Committee to revise and adopt report;

May 15
U. S. National Committee report sent to Secretary General of the CSAGI;

October 1–4
Meeting of CSAGI at Rome, Italy;

November 29 and 30 (tentative)
Fifth meeting, U. S. National Committee.

INTERNATIONAL RELATIONS IN ANTHROPOLOGY

The Committee on International Relations in Anthropology held its eleventh meeting on October 24 at the Academy–Research Council to initiate organization of the Fifth International Congress of Anthropological and Ethnological Sciences to be held at Philadelphia in 1956.

Frederick Johnson, Executive Secretary of the American Anthropological Association, reported that the Association had made a grant to the Academy–Research Council for preliminary work on the Congress.

The following subcommittees were authorized and the chairmen appointed: *Program*, Melville J. Herskovits, Northwestern University; *Local Arrangements*, A. V. Kidder, II, The University Museum, Philadelphia; *Foreign Delegations*, Henry B. Collins, Jr., Smithsonian Institution; *American Sponsors*, William Duncan Strong, Columbia University; and *Finance*, Clyde Kluckhohn, Harvard University.

The Permanent Council of the Congress of Anthropological and Ethnological Sciences will meet in Europe in the summer of 1954. F. G. Rainey, Chairman of the Committee on International Relations in Anthropology, together with one of the two Permanent Secretaries on the Council from the United States, will attend this meeting. Plans for the Congress will be submitted to the Permanent Council at that time.

Under other business the Committee voted to take action to clarify the Committee's relationship to the recently formed International Union of Anthropological and Ethnological Sciences.

INTERNATIONAL MEETINGS, 1954

The following list of international meetings includes only those to be held under the auspices of the International Council of Scientific Unions and its constituent unions:

July 2–14	Eighth International Botanical Congress, *Paris*
July 6–9	Joint Commission on Electron Microscopy, *London*
July 8–9	Eighth General Assembly, International Union of Pure and Applied Physics, *London*
July 13–17	Conference on Experimental and Theoretical Nuclear Physics, *Glasgow, Scotland*
July 13–17	Conference on the Physics of the Solid State, *Bristol, England*
July 21–28	Third General Assembly and Congress of the International Union of Crystallography, *Paris*
July 27–28	Fourth General Assembly of the International Union of Theoretical and Applied Mechanics, *Brussels*
July 29–31	Colloquium on Photoelasticity and Photoplasticity, *Brussels*
Aug. 16–18	Joint Commission on the Ionosphere, *Brussels*
Aug. 23–Sept. 2	Eleventh General Assembly, International Scientific Radio Union, *Amsterdam* or *The Hague*
Aug. 31–Sept. 1	Second General Assembly, International Mathematical Union, *The Hague*
Sept. 2–9	International Congress of Mathematicians, *Amsterdam*
	Eighth Congress, International Society for Cell Biology, *Leiden, The Netherlands*
Sept. 15–29	Tenth General Assembly, International Union of Geodesy and Geophysics, *Rome*
Oct. 1–4	Special Committee for International Geophysical Year, *Rome*

SIXTH INTERNATIONAL CANCER CONGRESS

The Sixth International Cancer Congress sponsored by the International Union Against Cancer will be held in São Paulo, Brazil, July 23–29, 1954. The program will include sections on fundamental cancer research, clinical studies on cancer, and on cancer control.

Residents of the United States who desire to present papers at the Congress must send *five* copies of an abstract of each paper to be presented to the Chairman, U. S. National Committee, International Union Against Cancer, National Research Council, 2101 Constitution Avenue, N. W., Washington 25, D.C., *before January 15, 1954.* Abstracts should not exceed 250 words and must be accompanied by the name, address, academic or professional title, and institutional affiliation of the investigator or physician. These requirements do not apply to people invited to participate by the President of the Congress unless application is being made for a travel allotment as described below.

Travel allotments will be available to a limited number of individuals requiring such assistance. Applications must be submitted in quintuplet to the above address by January 15, 1954. They should be in letter form giving information concerning age, training, publications in cancer or related fields, and academic or professional status. Applicants not planning to present papers at the Congress should include five copies of abstracts, as described above, of major current investigative work. A letter from the laboratory director, or appropriate administrative officer, approving the application is also necessary.

INTERNATIONAL COUNCIL FOR BUILDING RESEARCH

The International Council for Building Research (CIB) was established on June 25 at the European Office of the United Nations by representatives of private and semiprivate organizations in Austria, Belgium, Denmark, Finland, France, Italy, The Netherlands, Norway, Sweden, the United Kingdom, and Western Germany. CIB succeeds the International Council for Building Documentation and has expanded its field of activity to include technical, social, and economic problems in housing and building. The three phases to be emphasized are experimental research, studies and applied research, and documentation.

RECORD OF MEETINGS

September	
2	Committee on Plastics and Elastomers, Subcommittee on Elastomers
	Panel on Guided Missiles
3	Panel on Titanium Production
9	Subcommittee on Food Supply
10	Panel on Low Temperature Materials
	Subcommittee on Atmospheric and Industrial Hygiene
11	Committee on Construction and Use of Precise Globes and Spherical Maps
13	Committee on Atomic Casualties
14	Subcommittee on Waste Disposal
14–15	Committee on Public Health Aspects of Brucellosis
15	Committee on Sanitary Engineering and Environment

September	
15	Committee on Food Protection
16	Subcommittee on Toxicology
17	Symposium on Atherosclerosis, Orientation Meeting
18	Committee on Cancer Diagnosis and Therapy
	Operating Committee, Federal Construction Council
	Committee on Condensation Control in Buildings, *Lancaster, Pa.*
21–23	Conference on Nuclear Processes in Geologic Settings, *Williams Bay, Wis.*
23	Off Street Parking Project, Executive Committee
	Advisory Committee, Federal Construction Council, Task Group T-4

September

26 Committee Advisory to Office of Ordnance Research, Chemistry Group

28 Committee Advisory to Office of Ordnance Research, Engineering Group

29 Panel on Plasma
Ad hoc Panel on Histology of Storage of Polyvinylpyrrolidone
Committee on Control of Deterioration
U. S. National Committee, International Union Against Cancer

30 Advisory Committee, Federal Construction Council, Task Group T-2
Subcommittee on Shock

October

1 Committee on Ship Steel
Advisory Committee, Federal Construction Council, Task Group T-1

1–2 Advisory Committee on Artificial Limbs, Lower Extremity Technical Committee, *Chicago*

2 Subcommittee on Radiobiology

2–3 Advisory Committee on Artificial Limbs, Upper Extremity Technical Committee, *Chicago*

5 Committee on Definitions and Standards of Identity for Foods, *New York City*

5–8 U. S. National Committee, International Scientific Radio Union, *Ottawa*

6 Subcommittee on the Cardiovascular System
Commission on Human Resources and Advanced Training, *Ann Arbor, Mich.*
Committee on Disaster Studies
Highway Research Board Advisory Committee, WASHO Road Test, *Santa Fe, N. Mex.*

7 Committee on Fabrics for Body Armor

7–9 Committee on Polymer Research

9 Committee on Flame and Thermal Protective Combat Clothing
Subcommittee on Food Technology

9–10 Committee on Hearing and Bio-Acoustics

10 Committee on Foreign Scholar Selection Program
Executive Committee, Division of Medical Sciences
Executive Committee, Division of Earth Sciences

11 Governing Board, National Academy of Sciences–National Research Council
Executive Committee, Division of Chemistry and Chemical Technology

October

12 Subcommittee on the Cutaneous System

14 Operating Committee, Federal Construction Council
Subcommittee on Trauma

14–15 Panel on Titanium Production

14–16 Conference on African Area Research, *Princeton, N. J.*

15 Highway Research Board, Working Committee, AASHO Road Test, *Chicago*

15–16 Committee on Geography, Advisory to Office of Naval Research, *Minneapolis, Minn.*

15–17 Second National Conference on Clays and Clay Minerals, *Columbia, Mo.*

16 Subcommittee on Radiation Sterilization

19–21 Conference on Electrical Insulation, *Pocono Manor, Pa.*

20 Nuclear Data Project Seminar

21 Subcommittee on Oncology

22 American Institute of Biological Sciences, Committee on Publications
Executive Committee, Food and Nutrition Board, *New York City*

23 Committee on Dentistry
Subcommittee on Biochemistry
Subcommittee on Biology
Subcommittee on Clinical Investigation
Subcommittee on Etiology and Pathology

23–24 Committee on Disaster Studies

24 Committee on International Relations in Anthropology
U. S. National Committee, International Union Against Cancer

26 Executive Committee, Committee on Growth

26–27 Committee on Feed Composition

27 Advisory Committee, Federal Construction Council

27–28 Housing Research Council

28 Joint Meeting of Panels on Plasma and Blood Coagulation

29 Committee on Highway Safety Research, Conference Planning Subcommittee
Committee on Wool Type Fabrics and Blends
Panel on Low Temperature Materials
Subcommittee on Blood and Related Problems

30 Committee Advisory to Office of Ordnance Research, Physics Group
Committee on International Exchange of Persons

NEW PUBLICATIONS

Atoll Research Bulletin. Nos. 19–23 (bound in one volume). Pacific Science Board, National Academy of Sciences–National Research Council. September, 1953. [115] p.

Committee on Growth of the National Research Council. Seventh Annual Report to American Cancer Society, Inc., July 1951–June 1952. 299 p.

Composition of Milks, a Compilation of the Comparative Composition and Properties of Human, Cow, and Goat Milk, Colostrum, and Transitional Milk. Prepared by Icie G. Macy, Harriet J. Kelly, and Ralph E. Sloan for the Food and Nutrition Board. Academy–Council Publication No. 254. 1953. 70 p. $2.00. (A revision of National Research Council Bulletin No. 119.)

Departments of Geological Science in Educational Institutions of the United States and Canada. American Geological Institute Report No. 9. Academy–Council Publication No. 279. 1953. 175 p. $2.00.

Filling and Sealing of Joints and Cracks in Concrete Pavements. Highway Research Board Bulletin No. 78. Academy–Council Publication No. 276. 1953. 40 p. $0.60.

Highway Research Organizations: Description of Existing Organizational Patterns and Scope of Activities. Highway Research Board Special Report No. 15. Academy–Council Publication No. 284. 1953. 48 p. $0.75.

Know Your Highway Costs. Highway Research Special Report No. 13. Academy–Council Publication No. 278. 1953. 33 p. $0.60.

Report of the Committee on Battery Additives of the National Academy of Sciences. 35 p.; 7 appendices and 1 attachment, [887] p. October 30, 1953. (To be distributed by the Department of Commerce).

Report of the Treasurer: 1952–1953. National Academy of Sciences. 1953. 70 p.

Research Needed in Geometric Highway Design. Highway Research Board Special Report No. 12. Academy–Council Publication No. 277. 1953. 49 p. $0.75.

Right-of-Way Problems. Highway Research Board Bulletin No. 77. Academy–Council Publication No. 275. 1953. 75 p. $1.05.

Safety of Polyoxyethylene Stearates for Use as Intentional Additives in Foods. Food Protection Committee of the Food and Nutrition Board. Academy–Council Publication No. 280. 1953. 19 p. $0.25.

Sexual Behavior in the Human Female. By Alfred Kinsey and others. Institute for Sex Research, Indiana University. W. B. Saunders Company. 1953. 842 p. $8.00.

Structural Effects of Heavy-Duty Trailer on Concrete Pavement: A Supplemental Investigation to Road Test One-MD. Highway Research Board Special Report No. 14. Academy–Council Publication No. 283. 1953. 35 p. $0.60.

Notice of Academy Meetings

NATIONAL ACADEMY OF SCIENCES

Annual Meeting, Washington, D. C., April 26-28, 1954

NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL

Governing Board, Washington, D. C., December 6, 1953
Governing Board, Washington, D. C., February 14, 1954
Governing Board, Washington, D. C., April 25, 1954
Governing Board, Washington, D. C., June 30, 1954

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NATIONAL RESEARCH COUNCIL

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Office of International Relations:
WALLACE W. ATWOOD, JR., *Director*

Office of Scientific Personnel:
M. H. TRYTTEN, *Director*

The search for Truth is in one way hard and in another easy. For it is evident that no one can master it fully nor miss it wholly. But each adds a little to our knowledge of Nature, and from all the facts assembled there arises a certain grandeur.

—ARISTOTLE